GTU INNOVATION COUNCIL

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Feedback Analysis Report of 2156 Students who completed their final year IDP / UDP during the academic year 2012-13

Gujarat Technological University (GTU) has made strategic efforts for bringing together young technology students, MSME clusters and users from informal and formal sectors through GTU Innovation Clubs in Colleges and its twenty five GTU Innovation Sankuls.

SURVEY: During the last three years, two cohorts of Final Year students have completed their Final Year projects and the third cohort is working on the IDPs / UDPs. During the summer, after completing the pre-Final examinations, before the students join their first semester of the Final Year, students have been going on Industrial Shodhyatra to search out the IDP for their Final Year project. During the three academic years, more than 1.2 lac Final Year students have participated in the process. For the last two years, GTU has sought feedback so that we could improve our processes. During an online survey of the final year projects of academic year 2012-13, nearly 2156 final year students across 25 GTU Innovation Sankuls responded to the questionnaire.

We found some interesting inputs during the survey and would like to highlight few of them as below

1. Faculty members and project guides are playing a crucial role in terms of initial orientation of the IDP / UDP.

2. Nearly half of the students are capable of locating an MSME and proceeding ahead during the IDP / UDP.

3. More than 30% industries helped the students in a very cordial manner and the students got huge benefit out of it.

4. More than 25% student claims that they realized that they are capable of solving larger challenges after the exercise of IDP / UDP.

5. More than 35% of the students managed to visit their corresponding industry / MSME in the given time frame of GTU / nearly two days per week.

6. Nearly 33% of the students were concerned about the innovation index of the projects and they did a good amount of literature review and patent search analysis. (This year, PSAR has been made mandatory.)

7. Around 32% students learnt the technology after taking IDP and tried to solve the problem, while learning the new technology.

8. More than 33% students were delighted and became confident while presenting their periodic progress report in the front of the whole class during the 7th semester.

9. More than 40% students were regularly (every week) in touch with their project / guide industry and others.

10. Around 33% students had a belief that taking IDP from an industry is better as you take a real life challenge and get exposure.

11. More than 35% teams claim that industry guidance was very consistent and they fully supported and guided till the submission of the IDP / UDP.

12. In the last academic year around 65% students continued with their IDP / UDP which was taken by them in the 7th semester and carried it forward during the 8th semester.

13. Nearly 52% teams believed that one larger and detailed project for the whole of the 7th and 8th semester brings more efficiency.

14. More than 43% students spend comparatively more time closely working with the industry during the 8th semester.

15. We have received inputs that nearly 35% of the teams completed their IDP / UDP to a satisfactory level and were able to implement it.

16. More than 30% students believe that proper mentoring, hand-holding and guidance id required for a good Final Year project.

17. While trying to map the various motivation factors which drive the entire IDP / UDP value chain at GTU, more than 28% shared that learning opportunity and becoming innovative had been a priority motivation.

18. Proper examination and benchmarking during continuous internal and external project examination, as an additional policy intervention, can make the project even better.

19. Nearly 80% teams found that the time allocated as per the academic calendar for IDP / UDP was proper and sufficient.

20. We found it very interesting that nearly 70% students who are doing innovative IDP / UDP are interested in filing patents and protect IPR, given a support system.

We believe the above insights can help GIC, GTU Innovation Sankuls, GTU Innovation Clubs, Faculty guides for the Final Year projects and the students in designing and implementing innovation policies which will make the movement scalable and sustainable. This will create a greater impact on the local community.

Summary

	Student Feedback Form

Did you know the entire process of innovation for final year project at GTU Innovation Council well before your summer industrial Shodhyatra after your pre-final year?

Yes	1614	75%
No	542	25%

In the following questions, you may tick multiple options.

From which source did you get the detailed information about your final year project?

GTU Innovation Council mailers	**110**	3%
GTU Innovation Council web	**333**	9%
GTU Innovation Council social media link	**158**	4%
Guide / Faculty	**1228**	33%
College / University notices	**802**	22%
Colleagues / Project partners	**545**	15%
Seniors	**499**	14%

How did you locate a MSME/ Industry/NGO/Others for defining your IDP?

Guide / Udisha / College	**355**	13%
Parental Contact	**318**	12%
Searched by own	**1047**	39%
Got help from colleague / senior	**378**	14%
Guide helped you to take UDP (you did not get an industry)	**335**	12%
Guide helped you to take UDP (You had an IDP but you preferred UDP based on your core strength, feasibility etc)	**253**	9%

How was the cooperation from MSME / Industry / NGO / Guide / Others while defining the IDP / UDP?

Industry helped excellent manner	**850**	31%
Initially it was tough but you could convince an industry	**281**	10%
Industry helped you even after you were in final year	**372**	13%
Industry/user gave support / resource too	**528**	19%
Got average cooperation as a regular intern	**457**	16%
Experience was not good / less cooperative	**172**	6%
Industry was hesitant earlier but after your work they liked it	**123**	4%

What was your key learning from your summer process of defining IDP / UDP?

Got 1st hand feeling of industrial challenges	**628**	17%
Realized that you are better capable of solving real life challenges	**907**	24%
Located various challenges which otherwise could not have been scouted by mere survey	**329**	9%
Gained practical knowledge of already read topics and got confident about your skill sets	**798**	22%
Opened your mind for innovation and entrepreneurship	**665**	18%
Learnt different aspects of innovation and met diversified group of stakeholders	**278**	7%
It was just a regular summer internship	**106**	3%

What was the duration /time taken on floor of industry or others while defining the IDP / UDP in the summer after your pre-final year exam?

Spent whole summer in industry with floor workers and defined/located the IDP / Problem definition	**494**	21%
Went couple of days per week and managed to define IDP	**849**	35%
Went once or twice and industry shared their challenge by own	**282**	12%
Took already unfinished task of industry or any other users from the point where it was left out	**90**	4%
Defined the IDP / UDP after 7thSem opened in consultation with project guide / colleague	**678**	28%

Did you check the originality of the project definition / prior art search / Literature survey (tried to know how new the challenge you scouted is)?

Yes did web search and also patent search from open source database like Google patent	**970**	33%
Only from web sources	**653**	22%
Assumed that the challenge IDP / UDP taken is original	**504**	17%
Felt even if the challenge is ordinary / old but in that industry / user it may have impact (may be like cost reduction /energy saving / efficiency increase etc.)	**254**	9%
Took the IDP / UDP as it is as you had lesser time and you could do that much	**156**	5%
Reference journal / article / review paper referred	**398**	14%

While defining IDP / UDP did you have the skill / technology know-how to solve it?

No only idea was there	**589**	20%
Learnt technology later on and tried to solve IDP/UDP	**927**	32%
Learnt by own during course in final year and solved majority part during your final year project	**809**	28%
Learnt from external sources/ acquired technical know-how / did some course outside and tried in solving during final year project	**494**	17%
Tried your best but could not solve by the end of 8th sem because of some advanced skill or similar situation	**96**	3%

When you shared your IDP / UDP with various stakeholders for the first time during the beginning of the 7th semester, how was the response?

Industry was happy to see its challenges get defined and possibly get solved in future	**788**	29%
Industry was happy but was in secure to share the challenge in public domain because of competitive market	**328**	12%
Classmates appreciated you while presenting in front of whole class during the beginning of the 7th sem.	**879**	33%
It was felt that the challenge / IDP / UDP is not very relevant and hence you thought to change it	**199**	7%
It was relevant to the industry but guide may have other view and hence you took another challenge IDP / UDP	**125**	5%
There were various inputs but you stacked to take it ahead and tried your best to solve it.	**385**	14%

After selecting IDP / UDP how closely were you in touch with Industry/MSME/Guide/User who gave you the challenge to work on?

Every week in the allotted time as per calendar in the college	**1040**	41%
Industry was far away so you were in touch with it periodically	**355**	14%
It was an UDP but still you kept in touch with your guide every week	**623**	24%
Was in touch with guide / industry monthly	**352**	14%
Rare touch with industry / guide but did progress by own	**131**	5%
Very less communication with industry / guide (due to some reason)	**65**	3%

What was your view while starting work on the IDP / UDP in the 7th Semester?

Taking IDP from an industry is always better as you take a real life challenge	**936**	33%
Sometime UDPs from faculty experience may suit better	**705**	25%
Irrespective of IDP / UDP the quality of the challenge and available guidance matters	**463**	17%
Did not take seriously at initial days but then felt the need and finally did good efforts irrespective of IDP / UDP	**230**	8%
Even if solving a challenge which is old but it has relevance is worth taking as a final year project	**206**	7%
May be size and complexity of IDP/UDP was given better importance and hence you tried tougher and latest things / trends	**180**	6%
You just took it as majority of your team colleagues were ready to work on that as it was their strength and you joined simply to contribute on it.	**79**	3%

Student Feedback Form

How was the level of guidance which you received either from industry mentor/College guide?

Industry guided till end and fully supported in mentoring	**1018**	36%
Industry did not guide much but college guide helped	**373**	13%
Either in case of IDP or UDP even you could not get much help from College allotted guide	**251**	9%
Tried to take help from external mentor /training center / guide to take it ahead	**341**	12%
Took support and guidance from colleagues/friends	**595**	21%
Tried getting help from faculty from other colleges	**151**	5%
Could not get support from any of above and hence tried to do it by own	**74**	3%
Even after trying own in extreme case and best effort you could not deliver as you had expected and hence you feel proper mentoring can make a difference	**55**	2%

Did you change your project after the 7th semester and if yes why? (If you did not change, and kept the same IDP/UDP, then please leave this question)

Completed the project during 7th sem itself and hence took another project in 8th Sem.	**382**	32%
Could not get good lab / equipment / skilled support and hence dropped it	**156**	13%

Despite access to infrastructure instrument technically sound mentor / guide was not available	**124**	10%
Guide thought the project is not progressing well due to any reason	**118**	10%
Got a better IDP / UDP based on your interest / skill and hence switched to new IDP / UDP	**173**	14%
Due to very high cost (with respect to affordability of college student) for developing the project you dropped it	**56**	5%
Theoretically it was over but could not ensure practical implementation	**144**	12%
You had to change team so you changed your IDP / UDP	**42**	4%

Do you believe keeping the same IDP / UDP for the whole year is better, or breaking it to minor projects also works equally well in terms of available time?

1 IDP per year including both sem is better always	**1220**	52%
Even 2 IDPs / UDPs can be done separately in 7th and 8th sem with full results	**427**	18%
In some cases 1 and in some cases 2 IDPs / UDPs can be done depending on team / resource and other scenario	**530**	23%
For only analysis 2 IDP / UDPs are recommendable but for implementation in detail (ex- hardware it needs whole final year)	**173**	7%

During the 8th semester due to more available time what was your strategy?

Simply spent more time with industry / guide and gave best effort	**1171**	43%
Worked as usual like 7th sem and prepared for higher study and other priority activities related to academics	**461**	17%

Tried to develop prototype / product / implementation in better way	**673**	25%
You feel even the allotted time was less and full 6 month field work can do even better during 8th sem	**295**	11%
Tried learning about IPR / Patenting / Design / startups and thought to take it to market	**126**	5%

What is the status of your project at the end of 8th semester/final year?

Completed and implemented on field	**1004**	35%
Completed but it will take time and perfect product design/resource to implement in future.	**919**	32%
It is just simulation or proof of concept and need few more batch to take it up as final year project again	**186**	7%
Incomplete work even in making prototype or simulation like work because of some reason	**164**	6%
Incomplete work even in making prototype or simulation like work because of some reason	**164**	6%
Could not complete at all because of some situation	**54**	2%
It was a big project and hence part of the work was done by you and next batches may take it up (certainly) and guide will take new upcoming batch for the project	**78**	3%
In case it is implemented it can impact larger needs	**85**	3%
Theoretical research and it will lead to further research ahead	**109**	4%
Just finished it as a regular thesis work without much target in taking it ahead. Conventional work	**82**	3%
Purchased/managed a prototype at the end as you could do it max in the circumstances.	**13**	1%

Which support system you feel could have taken your innovation/project to even a better quality than what you were able to achieve?

Mentoring / Handholding / Guidance	**960**	31%
IPR / Patenting support	**199**	6%
Design / Fabrication support	**522**	17%
Financial support for equipment etc	**371**	12%
Technological know-how and giving you needed technological skills	**680**	22%
Awards / Appreciations	**178**	6%
Allow interdepartmental projects / guides from external colleges in case of need	**179**	6%

What is the best motivation for students doing final year project ?

Good academic score	**683**	18%
Learning opportunity and becoming innovative student	**1091**	28%
Filing patent or starting student start up	**218**	6%
Winning awards and appreciations	**242**	6%
Solving a real life challenge which itself gives satisfaction and confidence of engineering learning	**827**	21%
Getting in touch with experts and create connections and improve skill and employability	**479**	12%
A better resume for future job prospective	**328**	8%

What additional policy changes could make the quality of your project even better ?

Proper examination/benchmarking during internal and external project examination.	**834**	18%
More academic credit for innovation	**653**	14%
Financial incentives to selected novel innovations	**254**	6%
Even incentive to project guides could have inspired them better to help you	**222**	5%
Financial support for patent filing	**217**	5%
Formally taking IPR / Patenting in syllabus and training faculties and students	**123**	3%
Give more flexibility in terms of inter departmental projects and link even resources and teams beyond colleges and link them formally	**271**	6%
Give better lab / infra facility to design / test and make final product	**335**	7%
Create online platform where mentors, students, industry, entrepreneurs can track the progress and need in better way	**351**	8%
Create better process for information and guidance passage and ensure less hindrance in accessing higher authorities within colleges and university.	**205**	5%
Create far better awareness within Innovation Sankuls, Udisha / Innovation Clubs / Students / Faculties and Industries about these innovation policies and make it a culture	**197**	4%
Awards / incentives must be formally set up at College / Sankul / University level to appreciate better innovative projects and their contributors	**133**	3%
Allow external guides too in case of need in UG / Polytechnic level too	**156**	3%
The protocols are to be flexible and students / guides / HODs would be allowed to develop local frameworks based on local possibilities and lesser interference from top policymakers can help even better	**101**	2%
Ensure every faculty get in touch with 1 industry at least in the area of IDP / UDP / interest and help students in need.	**280**	6%
Others	**187**	4%

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Do you feel that your project would have been better, if more time duration were given to you?

Sufficient time was allotted per week to finish the project in 1 year	**1703**	79%
Lesser time was allotted in general	**317**	15%
More time was allotted than required	**131**	6%

Are you interested to file patents based on your final year project ?

Yes	**1449**	69%
No	**638**	31%